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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Perkins Coie LLP
101 Jefferson Drive
Menlo Park, CA 94025-1114

EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,464

Applicant(s)

CHEON ET AL.

Examiner

George P Wyszomierski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 15-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14, drawn to a method for producing core-shell type metallic nanoparticles, classified in class 75, subclass 362.
 - II. Claims 15 and 21-23, drawn to an information recording media, classified in class 428, subclass 694T.
 - III. Claims 16 and 17, drawn to chemical catalysts, classified in class 423, subclass 1+.
 - IV. Claims 18 and 19, drawn to medical diagnostic and therapeutic agents, classified in Class 424, subclass 9.323.
 - V. Claim 20, drawn to a single electron device, classified in Class 257, subclass 20.
2. Inventions I and II, I and III, I and IV and I and V are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the articles could be made by a dip coating process rather than a chemical transmetalation process.
3. Inventions II and III, II and IV, II and V, III and IV, III and V and IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions II, III, IV, and V all claim different and unrelated products.

4. During a telephone conversation with David Dort on September 15, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claim 15-23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The disclosure is objected to because of the following informalities: In the first line of claims 8 and 14, it appears that "react ion" should be changed to --reaction--. Appropriate correction is required.

7. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) It is unclear what is meant by the terms "core-shell type" and "solid solution alloy type" as used in the instant claims. If these terms are simply denoting a feature of the final products produced by the process of the independent claims, then what is meant by the use of these terms in dependent claims 3 and 12, which are apparently describing one or more of the starting materials? If these terms are defining a capability of the final products, then it is unclear what

the metes and bounds would be of the instant claims, i.e. what features would be required to be present in order to make these products a "core-shell type" or "solid solution type" material?

b) In claims 5 and 11, it is unclear how the first metal could be gold. The independent claims require the use of a second metal having a reduction potential higher than the first metal, and if the first metal were gold, then no such second metal would exist.

c) At the end of claims 7 and 13, it is unclear what substances would or would not fall within the scope of the term "and the like".

d) Claims dependent upon any of the above are likewise rejected under this statute.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 2, 9, 10, 11, 13 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Murray et al. (U.S. Patent 6,254,662).

Murray discloses producing nanoparticles of a solid solution of two metals by mixing organic solutions containing precursors of the desired metals, and heating to a temperature as recited in instant claim 14 to form the nanoparticles. The solutions of the prior art contain one or more of the substances as recited in claims 9, 10, and 13; see Murray column 2, line 41 to column 3, line 58. Thus, all aspects of the process as claimed appear to be fully disclosed by Murray et al.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al.

Murray does not specify that the starting materials are the types as recited in the instant claim. However, the starting materials as defined by Murray (see columns 3-4 of Murray) include materials which include two or more metals capable of forming solid solutions or core-shell materials. (It is further noted that the precise definition of what is required by this claim is unclear; see the rejection under 35 USC 112 supra). Given that numerous embodiments of the prior art would appear to meet the claimed limitations, to perform the Murray et al. process using the starting materials as presently claimed would have been well within the level of one of ordinary skill in the art.


12. Claims 1 and 3-8 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. The prior art does not disclose or suggest forming core-shell nanoparticles by a method as recited in claim 1.

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13. The remainder of the art cited on the enclosed PTO-892 form is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, *supra*.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for this Group is (703) 872-9310 for all correspondence except for After Final amendments in which case the Fax number is (703) 872-9311. The Right fax number for this examiner is (703) 872-9039. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

GPW
September 22, 2003